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the fact that my plate was made with an old silver surface on the mirror. The stars are estimated to be of about the 17th magnitude on both of Mr. Ritchey's plates. On mine, No. 1 is about a magnitude fainter, and No. 2 is quite invisible. On a plate exposed 2<sup>h</sup>30<sup>m</sup> with the Hooker telescope 1921 June 30, No. 1 is about half a magnitude fainter than on the 1910 plates, and No. 2 is still invisible. No evidence was found that any change had taken place in the nebula itself during the 11-year interval.

JOHN C. DUNCAN.

July 12, 1921.

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THE GREAT SUN-SPOT OF MAY, 1921\*

(Abstract)

This spot, which was associated with brilliant auroras and intense terrestrial magnetic disturbances, showed some remarkable peculiarities. Chief among these were the mixed magnetic polarities of the two larger members of the group. The bearing of these phenomena on the nature of sun-spots is briefly discussed in the paper.

GEORGE E. HALE AND S. B. NICHOLSON.

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ON THE ABSENCE OF SELECTIVE ABSORPTION IN THE ATMOSPHERE OF VENUS\*

(Abstract)

The spectrum of *Venus*, with a scale of 3 Å per mm, has been compared with the solar spectrum from  $\lambda 3900$  to  $\lambda 6900$ . No lines due to the atmosphere of *Venus* were observed. These observations were made when the relative velocity of the Earth and *Venus* was such that lines originating in the atmosphere of *Venus* should have been completely separated from those due to the Earth's atmosphere, the displacement being about 0.25Å. Solar lines of Rowland intensity 00 and 000 are present in the spectrograms, but there is no trace of water vapor lines or of oxygen lines in the  $\alpha$  and B groups,  $\lambda 6300$  and  $\lambda 6800$ , originating in the atmosphere of *Venus*. The measured wave lengths of the water vapor and oxygen lines present are the same as for the terrestrial atmospheric lines. As far as our observations go, the solar lines are unmodified and no lines due to water vapor or oxygen are produced by the double passage